MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
James I. Palmer, Jr., Executive Director

March 10, 2000

Mr. Don Williams, Plant Environmental Coordinator
Grenada Manufacturing, LLC
635 Highway 332
Grenada, MS 38901

Dear Mr. Williams:

Re: Groundwater detection monitoring Program
Grenada Manufacturing, LLC
(Formerly Textron Automotive Company, Inc.)
Grenada, Grenada County
MSD 007 037 278

We are in receipt of your request to delete numerous parameters from the groundwater detection monitoring program contained in the referenced permit. At this time we are not inclined to consider such a request to modify the permit for the following reasons:

1. We cannot locate and have no record of receiving the RCRA Quarterly Groundwater Monitoring Report of November 10, 1999, so cannot evaluate the information contained in said document.

2. Because of overlap of the base RCRA program (administered by MDEQ) and HSWA (administered by U.S. EPA) and the proximity of the various units, any modification to the State of Mississippi Hazardous Waste Management Permit will have to be coordinated with a modification to the Federal HSWA Permit to ensure that all units are monitored for the appropriate parameters. There are no 'other MDEQ program requirements' that can address releases from the other SWMUs at the site.

I understand that EPA is scheduling a visit to the site for sometime in April and believe that this will provide an opportunity for all parties to meet and discuss this issue. If you have any questions, please call me at 601-961-5117.

Sincerely,

Louis Crawford, P.E.
Environmental Permits Division

cc: Mr. Caleb H. Dana, Jr., P.E., CHMM, Eco-Systems
Mr. Don Webster, EPA ← THIS COPY FOR

d18/mod-02-1

Docket Number 450912

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

EPA

Eco•Systems, Inc.
Consultants, Engineers and Scientists

February 29, 2000

Mr. Louis Crawford
Environmental Permits Division - Chemical, Agricultural, and Metal Manufacturing Branch
Mississippi Department of Environmental Quality - Office of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

Re: Groundwater Detection Monitoring Program, Condition IV.F.
HWMP No. HW-007-037-278
Textron Automotive Company, Inc.
Grenada, Grenada County, Mississippi

Dear Mr. Crawford:

This letter is submitted on behalf of the Textron Automotive Company, Inc. (Textron) in Grenada, Mississippi to the Mississippi Department of Environmental Quality (MDEQ) regarding clarification of analytical parameters for the groundwater Detection Monitoring program (HWMP No. HW-007-037-278 Condition IV.F.).

Based on the results of the RCRA Quarterly Groundwater Monitoring (SWMU #2) report, *Eco·Systems, Inc.*, submitted on November 10, 1999 to the MDEQ, a number of the sampling parameters were determined to be either statistically insignificant, occurring in the up-gradient background monitoring well (and/or associated degradation products), or originating from other cross-gradient sources such that release to groundwater for these constituents was not likely from the closed lagoon. These parameters included volatile parameters: Trichloroethylene (TCE) and its degradation products (1,1 DCA, 1,1-DCE, t,1,2-DCE, 1,1,1-TCA, 1,1,2-TCA, and Vinyl Chloride), Perchloroethylene (PCE), Benzene, Toluene, and Xylene; semi-volatiles: 1,2,4 Trichlorobenzene and 2-Methylnapthalene; and metals: Selenium and Arsenic.

Textron therefore requests that the parameters for the Detection Monitoring program be limited to the remaining statistically significant parameter of Total Chromium. The other parameters are anticipated to be addressed by other MDEQ program requirements.

No deletions on a SWMU by SWMU basis. Facility must present f-wide IM Plan first.

439 Katherine Drive, Suite 2A • Jackson, MS 39208 • Phone (601) 936-4440 • Fax (601) 936-4463

We appreciate the MDEQ's help on this matter and will appreciate a response as soon as you can. If you have any questions, please do not hesitate to call Mr. John Kandler with Textron at (401) 457-2363 or Caleb Dana at (601) 936-4440.

Very truly yours,
Eco·Systems, Inc.

Caleb H. Dana, Jr., P.E., CHMM
Senior Principal Engineer

c: Mr. John Kandler, Textron
Mr. Don Williams, Grenada Manufacturing Company

Don

Eco•Systems, Inc.
Consultants, Engineers and Scientists

November 10, 1999

Mr. Louis Crawford
Environmental Permits Division - Chemical, Agricultural, and Metal Manufacturing Branch
Mississippi Department of Environmental Quality - Office of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

DEC 0 2 1999

Re: Quarterly Groundwater Sampling Report (Q-3 99)
And Annual Statistical Evaluation Report
HWMP No. HW-007-037-278
Grenada Manufacturing Company, Inc.
Grenada, Grenada County, Mississippi

Dear Mr. Crawford:

The enclosed above-referenced reports are submitted on behalf of the Grenada Manufacturing Company, Inc.. (Grenada Manufacturing) to the Mississippi Department of Environmental Quality (MDEQ). The reports present the laboratory analytical results for groundwater samples collected during the fourth quarterly sampling event (Q-3 99) and the annual Statistical Evaluation as required by the HWMP No. HW-007-037-278 for the Grenada Manufacturing facility located in Grenada, Mississippi. The sampling was performed from November, 1998 (Q-4 99) through July, 1999 (Q-3 99) for the groundwater monitoring wells installed adjacent to the SWMU#2. The documents may be placed in the three-ring binder that was previously provided with the first quarterly data report submitted January 15, 1999.

The data reveals detections of Chromium, Toluene, Trichloroethylene (TCE) and TCE daughter break-down products in the down-gradient wells. However, it should be noted that TCE was also consistently detected in the up-gradient well (MW-1). The report concludes that TCE and its break-down products most likely originated from sources other than the SWMU #2. With regard to Chromium, the report concludes that the source(s) may have been the lagoon prior to closure or other source. The data suggests that no releases have occurred from the closed lagoon.

If you have any questions, please do not hesitate to call Mr. Don Williams at (601) 226-1161 or Caleb Dana at (601) 936-4440.

Very truly yours,
Eco-Systems, Inc.

for

John Ryan P.G.
Senior Geologist

Caleb H. Dana, Jr., P.E., CHMM
Principal Engineer

Read This
Read it, too
big to bring

cc: Mr. Don Williams (Grenada Manufaturing)
Ms. Lael Butler (USEPA Region IV)
Mr. John Bozick (Meritor Automotive, Inc.)
Mr. John Kandler (Textron, Inc.)

439 Katherine Drive, Suite 2A • Jackson, MS 39208 • Phone (601) 936-4440 • Fax (601) 936-4463

TABLE OF CONTENTS

1.0 INTRODUCTION

Eco·Systems, Inc. (*Eco·Systems*) has received final analytical results for the Third Quarter, 1999 (Q-3 99) quarterly groundwater samples collected at the Grenada Manufacturing, LLC automotive parts plant in Grenada, Mississippi. This sampling and analysis effort represents the fourth round of quarterly sampling required under Section IV. E.1 of Grenada Manufacturing's Hazardous Waste Management (HWM) permit No. MSD007037278. Field activities were conducted on July 23, 1999. This report may be filed in your RCRA Quarterly Groundwater Monitoring (Solid Waste Management Unit (SWMU) #2) binder previously provided.

Background information pertaining to the Site may be referenced in the Fourth Quarter, 1998 report. Groundwater collection methodologies, sample identification rationale, analytical methods, quality assurance/quality control (QA/QC) procedures, and historical groundwater sampling results for the Site are included in the Fourth Quarter, 1998 report for review. Analytical results for the Third Quarter, 1999 sampling event are presented in subsequent sections organized as follows:

- Investigative results of the Q-3 99 sampling event (Section 2.0); and
- A report summary and conclusions (Section 3.0).

2.0 GROUNDWATER SAMPLING RESULTS

Groundwater samples were collected on July 23, 1999 from the four (4) monitoring wells specified in the permit utilizing methods and procedures described in Section 2.0 of the Fourth Quarter, 1998 report. Each groundwater sample was analyzed for Appendix IX Volatile Organics, Semivolatile Organics, and the eight (8) RCRA Metals as specified in the RCRA permit. As presented below, detectable results of several compounds of concern (Table 1; Figure 1) were identified from groundwater collected during this event. Groundwater collection forms are provided in Appendix A and laboratory analytical data sheets may be found in Appendix B.

2.1 APPENDIX IX VOLATILES

Groundwater analytical results received from the laboratory analysis indicated that all four (4) of the wells sampled during this event revealed detectable concentrations greater than the laboratory-derived practical quantitation limit (PQL) of 0.005 milligrams per liter (mg/L), equivalent to parts per million (ppm)), concentrations of at least one (1) of the Appendix IX Volatile Organic Compounds (VOCs; Table 1). Several chlorinated VOCs, including Trichloroethene (TCE), and several potentially associated degradation products, were identified in wells MW-1, MW-2, MW-4, and MW-5. TCE was detected in these wells at levels ranging from 0.128 mg/L in MW-1 to 22.5 mg/L in MW-2. Several other "degradation products" including 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), and trans-1,2-Dichloroethene (t,1,2-DCE) were identified in downgradient wells at levels up to 0.0903 mg/L (1,1-DCE, MW-4). Vinyl Chloride (VC), one of the final chlorinated degradation products of TCE, was detected in MW-2, MW-4 and MW-5 at 3.280 mg/L, 0.521 mg/L, and 0.133 mg/L, respectively.

2.2 APPENDIX IX SEMIVOLATILES

As presented in Table 1, low level (less than 0.020 mg/L) detections of select Appendix IX Semivolatile Organic Compounds (SVOCs) were identified in groundwater samples collected at MW-1 and MW-2 during this event. The SVOCs included bis(2-Ethylhexyl)phthalate, 1,2,4 Trichlorobenzene, 2-Methylnaphthalene and Naphthalene.

2.3 SELECT APPENDIX IX METALS

Two (2) of the four (4) wells (MW-2 and MW-5) sampled during this event revealed detectable levels (greater than the PQL, Table 1) of only one (1) of the Appendix IX RCRA Metals. Total Chromium was detected in groundwater samples collected from downgradient wells MW-2 and MW-5 at concentrations of 18.6 mg/L and 1.16 mg/L, respectively. All other listed metals were non-detect (less than the PQL) in groundwater collected from all wells sampled during Q-3-99 (Table 1).

2.4 GROUNDWATER FLOW PATTERNS

Water level elevation data obtained during this event is presented in Table 2. As shown on the potentiometric surface map in Figure 2, flow in the vicinity of the closed Equalization Lagoon is generally to the *northwest*. This flow pattern appears to be generally consistent with historical patterns reviewed for the Site.

2.5 QA/QC RESULTS

QA/QC procedures were performed in accordance with Textron's QAPP to assure validity of sampling results. A total of one (1) duplicate sample, one (1) trip blank sample, and one matrix spike/matrix spike duplicate (MS/MSD) sample was collected. Duplicate sample (with normal sample for comparison) results are shown in Table 3 and correspond well with the normal sample results. Trip blank results are also shown in Table 3.

An independent QA/QC review was performed on all analytical data collected during the current sampling event. Some samples (flagged with "J" in Table 1 and Table 3) contained high concentrations of target analytes which required the laboratory to dilute the sample in order to bring the analyte in question into the working quantitation range of the instrument used. As a result of this dilution, exact concentrations of the other target analytes in the sample cannot be accurately determined. Results flagged with an "J" were diluted and qualified as estimated.

No target analytes were detected in any of the laboratory blanks. In general, *Eco·Systems* concluded that the laboratory analyses were conducted under well-controlled conditions, and with sufficient precision and accuracy to provide accurate analytical results.

3.0 SUMMARY AND CONCLUSIONS

Eco·Systems was commissioned by Grenada Manufacturing, LLC to continue quarterly groundwater sampling and analysis in accordance with the facility's RCRA operating permit for the closed Equalization Lagoon. This event represents the fourth sampling event required under the permit. Water levels and groundwater samples were collected from four (4) monitoring wells surrounding the regulated unit on July 23, 1999 and analyzed for Appendix IX Volatiles, Semivolatiles, and selected Metals. The analytical results have been presented in tabular form (Table 1) as well as graphically for select compounds of concern illustrated on Figure 1. The potentiometric surface and resultant flow patterns were evaluated through the construction of a potentiometric surface map of the Site (Figure 2). Based on review of the groundwater data collected during Q-3 99, *Eco·Systems* presents the following summary and conclusions:

- The industrial solvent TCE was detected in all downgradient wells at concentrations of 22.5 mg/L (MW-2), 0.286 mg/L (MW-4), and 3.56 mg/L (MW-5). Associated chlorinated degradation products were also observed including VC, which was detected at 3.280 mg/L in MW-2, 0.521 mg/L in MW-4 and 0.133 mg/L in MW-5. The Maximum Contaminant Level (MCL; EPA, December, 1995) for TCE and VC are 0.005 mg/L and 0.002 mg/L, respectively.

- TCE was also detected in the background monitoring well, MW-1, at a concentration of 0.128 mg/L.

- Low level concentrations (less than 0.020 mg/L) of select Appendix IX SVOCs were observed including Bis(Ethylhexyl)phthalate in MW-1 and 1,2,4 Trichlorobenzene, 2-Methylnaphthalene and Naphthalene in MW-2.

- Elevated levels of the metal Chromium (total) were detected in groundwater samples collected from MW-2 and MW-5 at concentrations of 18.6 mg/L and 1.16 mg/L, respectively. The MCL for Total Chromium is 0.100 mg/L.

- Groundwater flow across the Site is generally to the northwest.

TABLES

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TABLE 1

GROUNDWATER ANALYTICAL RESULTS

RCRA GROUNDWATER MONITORING - THIRD QUARTER, 1999

GRENADA MANUFACTURING, LLC

GRENADA, MISSISSIPPI

PARAMETER[1]	PQL[2] (mg/L)	RESULT CONCENTRATION (mg/L)[3]			
		MW-1	MW-2	MW-4	MW-5
APPENDIX IX VOLATILES (METHOD 8260)					
Chloroethane	0.010	ND	ND	ND	ND
1,1 - Dichloroethane	0.005	ND	0.053 [5]	0.0051	ND
1,1 - Dichloroethene	0.005	ND	0.093 [5]	0.00777	0.0121
trans - 1,2-Dichloroethene	0.005	ND	0.034 [5]	0.0903	0.0104
Tetrachloroethene	0.005	ND	0.071 [5]	ND	ND
Toluene	0.005	ND	0.025 [5]	ND	ND
1,1,1 - Trichloroethane	0.005	ND	0.037	ND	ND
1,1,2 - Trichloroethane	0.005	ND	ND	ND	ND
Trichloroethene	0.005	0.128	22.5 [6]	0.286	3.56
Vinyl Chloride	0.010	ND	3.28 [6]	0.521	0.133
All Others Not Listed	0.005-0.500	ND	ND	ND	ND
APPENDIX IX SEMI-VOLATILES (METHOD 8270)					
Bis(2-Ethylhexyl)phthalate	0.01	0.0143	ND	ND	ND
2-Methylnaphthalene	0.010	ND	0.0162	ND	ND
Naphthalene	0.010	ND	0.0132	ND	ND
1,2,4-Trichlorobenzene	0.010	ND	0.010	ND	ND

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TABLE 1 (Continued)

GROUNDWATER ANALYTICAL RESULTS

RCRA GROUNDWATER MONITORING - THIRD QUARTER, 1999

GRENADA MANUFACTURING, LLC

GRENADA, MISSISSIPPI

PARAMETER[1]	PQL[2] (mg/L)	RESULT CONCENTRATION (mg/L)[3]			
		MW-1	MW-2	MW-4	MW-5
APPENDIX IX METALS (METHOD 6000/7000 SERIES)					
Arsenic	0.010	ND	ND	ND	ND
Barium	0.200	ND	ND	ND	ND
Cadmium	0.005	ND	ND	ND	ND
Chromium (total)	0.010	ND	18.6	ND	1.16
Lead	0.003	ND	ND	ND	ND
Mercury	0.0002	ND	ND	ND	ND
Selenium	0.005	ND	ND	ND	ND
Silver	0.010	ND	ND	ND	ND

[1] Samples were analyzed for Appendix IX List VOCs, SVOCs, and RCRA Metals. See Appendix C for full list results and detection limits.

[2] PQL = Practical quantitation limit, or detection limit, for the individual analyses. Necessary sample dilution has raised the PQL in some samples.

[3] Result concentrations are reported in milligrams per liter (mg/L), equivalent to parts per million (ppm).

[4] Result was below the PQL, or "Non-Detect".

[5] Undiluted sample analysis as provided on laboratory data sheet (Lab ID SYZ-005P).

[6] Diluted sample analysis as provided on laboratory data sheet (Lab ID SYZ-005).

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TABLE 2

POTENTIOMETRIC SURFACE DATA SHEET

RCRA GROUNDWATER MONITORING - THIRD QUARTER, 1999

GRENADA MANUFACTURING, LLC

GRENADA, MISSISSIPPI

WELL NO.	TOC ELEVATION (ft. MSL)[1]	WATER DEPTH (feet)[2]	GROUNDWATER ELEVATION (ft. MSL)
MW-1	185.18	13.05	172.13
MW-2	184.56	13.04	171.52
MW-3	184.00	12.23	171.77
MW-4	184.33	13.05	171.28
MW-5	184.17	12.86	171.31

[1] TOC = "top of well casing" measured in feet above mean sea level (ft. MSL). The protective metal casing was surveyed by others.

[2] Water depth is a relative depth from the TOC (PVC well).

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TABLE 3

QA/QC ANALYTICAL RESULTS

RCRA GROUNDWATER MONITORING - THIRD QUARTER, 1999

GRENADA MANUFACTURING, LLC

GRENADA, MISSISSIPPI

PARAMETER[1]	PQL[1] (mg/L)	RESULT CONCENTRATIONS (mg/L)[2]		
		Trip Blank	MW-1	Duplicate (from MW-1)
APPENDIX IX VOLATILES (METHOD 8260)				
Chloroethane	0.010	ND	ND	ND
1,1 - Dichloroethane	0.005	ND	ND	ND
1,1 - Dichloroethene	0.005	ND	ND	ND
trans - 1,2-Dichloroethene	0.005	ND	ND	ND
Tetrachloroethene	0.005	ND	ND	ND
Toluene	0.005	ND	ND	ND
1,1,1 - Trichloroethane	0.005	ND	ND	ND
1,1,2 - Trichloroethane	0.005	ND	ND	ND
Trichloroethene	0.005	ND	0.128	0.128
Vinyl Chloride	0.010	ND	ND	ND
All Others Not Listed	0.005 - 0.500	ND	ND	ND
APPENDIX IX SEMI-VOLATILES (METHOD 8270)				
Bis(2-Ethylhexyl)phthalate	0.010	0.0143	ND	ND
2-Methylnaphthalene	0.010	ND	ND	ND
Naphthalene	0.010	ND	0.0132	ND
1,2,4-Trichlorobenzene	0.010	ND	ND	ND
All Other Compounds	0.010 - 0.050	ND	ND	ND

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TABLE 3 (Continued)

QA/QC ANALYTICAL RESULTS

RCRA GROUNDWATER MONITORING - THIRD QUARTER, 1999

GRENADA MANUFACTURING, LLC

GRENADA, MISSISSIPPI

PARAMETER[1]	PQL[1] (mg/L)	RESULT CONCENTRATIONS (mg/L)[2]		
		Trip Blank	MW-1	Duplicate (from MW-1)
APPENDIX IX METALS (METHOD 6000/7000 SERIES)				
Arsenic	0.010	NA [3]	ND [4]	ND
Barium	0.200	NA	ND	ND
Cadmium	0.010	NA	ND	ND
Chromium	0.010	NA	ND	ND
Lead	0.003	NA	ND	ND
Mercury	0.0002	NA	ND	ND
Selenium	0.005	NA	ND	ND
Silver	0.010	NA	ND	ND

[1] PQL = Practical quantitation limit, or detection limit, for the individual analyses.

[2] Result concentrations are reported in milligrams per liter (mg/L), equivalent to parts per million (ppm).

[3] Inorganic analyses were "not applicable" per convention and project scope.

[4] Result was below the PQL, or "Non-Detect".

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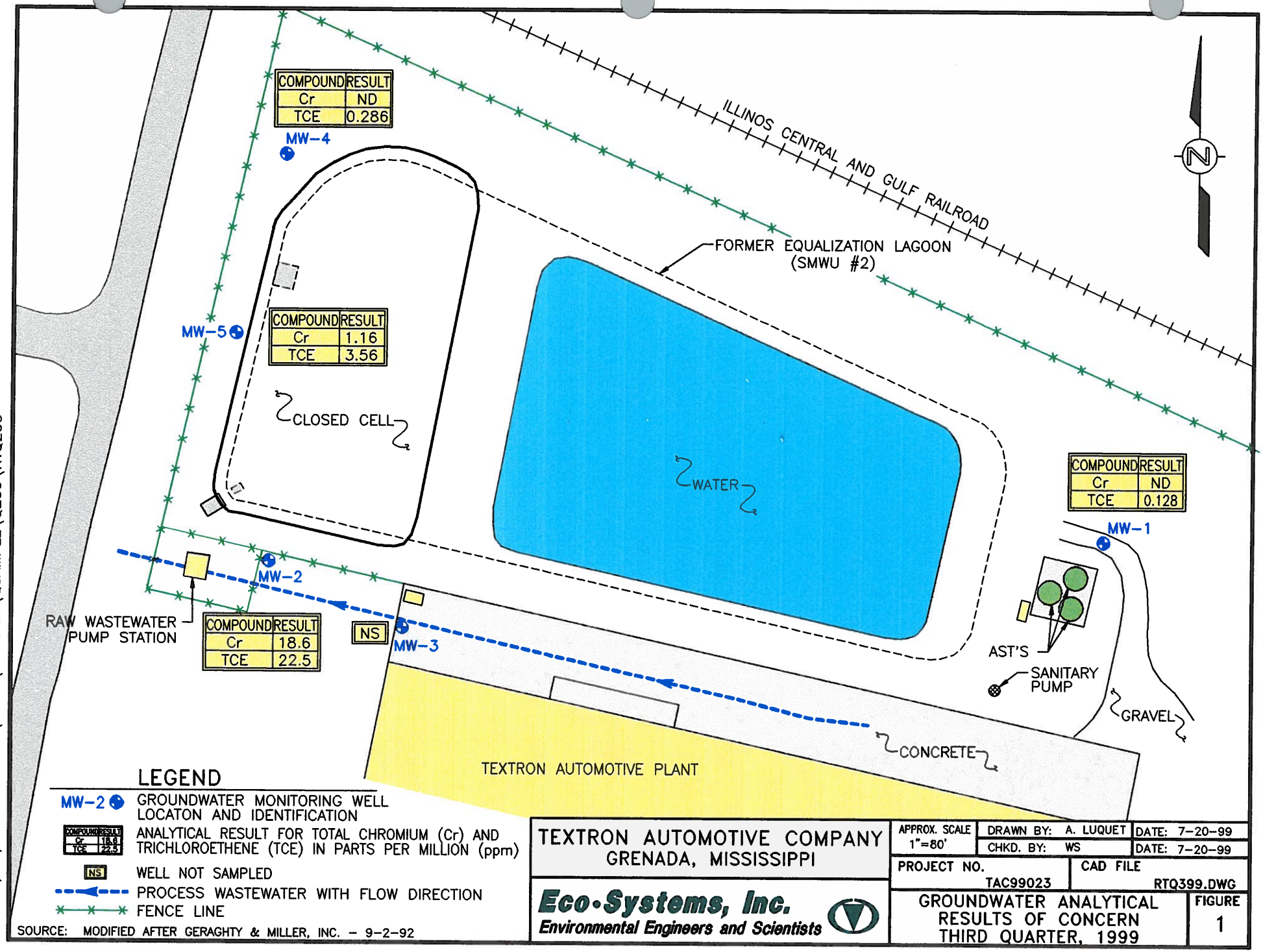
FIGURES


COMPOUND RESULT
Cr ND
TCE 0.286
MW-4
ILLINOS CENTRAL AND GULF RAILROAD
FORMER EQUALIZATION LAGOON
(SMWU #2)
COMPOUND RESULT
Cr 1.16
TCE 3.56
MW-5
CLOSED CELL
WATER
COMPOUND RESULT
Cr ND
TCE 0.128
MW-1
MW-2
RAW WASTEWATER
PUMP STATION
COMPOUND RESULT
Cr 18.6
TCE 22.5
NS
MW-3
AST'S
SANITARY
PUMP
GRAVEL
CONCRETE
TEXTRON AUTOMOTIVE PLANT
LEGEND
MW-2 GROUNDWATER MONITORING WELL
LOCATON AND IDENTIFICATION
ANALYTICAL RESULT FOR TOTAL CHROMIUM (Cr) AND
TRICHLOROETHENE (TCE) IN PARTS PER MILLION (ppm)
NS WELL NOT SAMPLED
PROCESS WASTEWATER WITH FLOW DIRECTION
FENCE LINE
SOURCE: MODIFIED AFTER GERAGHTY & MILLER, INC. – 9-2-92
TEXTRON AUTOMOTIVE COMPANY
GRENADA, MISSISSIPPI
Eco•Systems, Inc.
Environmental Engineers and Scientists
APPROX. SCALE 1"=80'
DRAWN BY: A. LUQUET DATE: 7-20-99
CHKD. BY: WS DATE: 7-20-99
PROJECT NO. TAC99023
CAD FILE RTQ399.DWG
GROUNDWATER ANALYTICAL
RESULTS OF CONCERN
THIRD QUARTER, 1999
FIGURE 1
A.L. 10/25/1999 11:43 E:\DRWG\RNDLTEX\QSAMPLE\Q299\RTQ299

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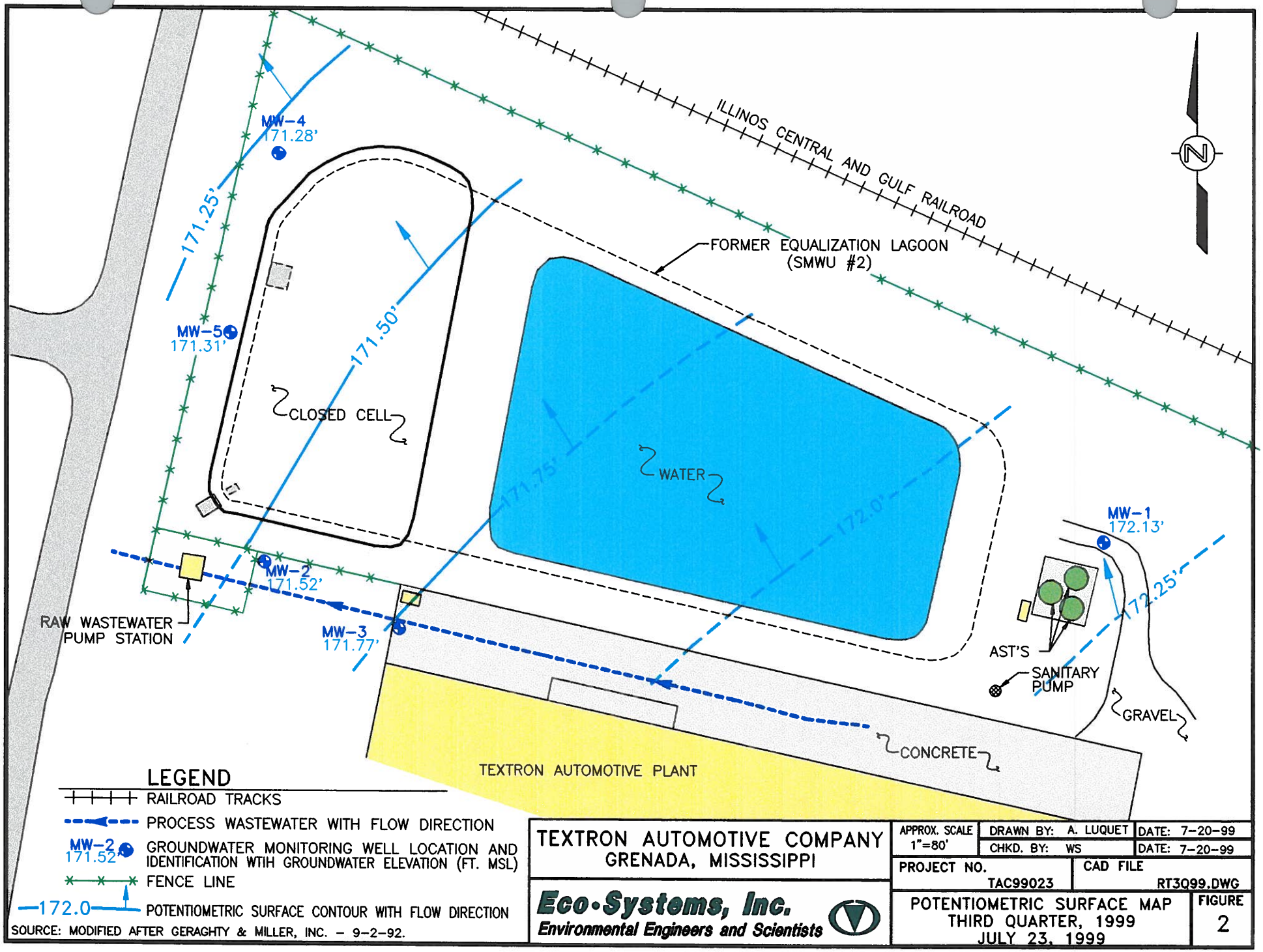
ATTACHMENT A

GROUNDWATER COLLECTION REPORTS



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TEXTRON AUTOMOTIVE COMPANY
GRENADA, MISSISSIPPI

Eco-Systems, Inc.
Environmental Engineers and Scientists

APPROX. SCALE 1"=80'	DRAWN BY: A. LUQUET	DATE: 7-20-99
	CHKD. BY: WS	DATE: 7-20-99
PROJECT NO. TAC99023	CAD FILE RT3Q99.DWG	

POTENTIOMETRIC SURFACE MAP
THIRD QUARTER, 1999
JULY 23, 1999

FIGURE 2